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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,919	01/26/2004	MICHAEL Y. LIANG		1918

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ALAMEDA, CA 94502

EXAMINER

CHORBAJI, MONZER R

ART UNIT	PAPER NUMBER
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1797

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08/18/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/707,919	Applicant(s) LIANG, MICHAEL Y.	
	Examiner MONZER R. CHORBAJI	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This final action is in response to the communication dated 1/5/09

Specification

1. The amendment filed on 2/5/09 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

In paragraph 00122, on page 2 of the amendments to the specification; Applicant added the new limitation "300 cfm to 30,000 cfm", which is not supported in the originally filed specification.

In paragraph 0042, on page 3 of the amendments to the specification; Applicant added the new limitation "with volume of 5,000 cfm", which is not supported in the originally filed specification.

In paragraph 0044, on page 3 of the amendments to the specification; Applicant added the new limitation "from dust", which is not supported in the originally filed specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The newly added limitation, "with volume larger than 300 cfm", in claim 11 is not supported by the original disclosure and one of ordinary skill in the art would not be able to ascertain from Applicant's specification and drawings that at the time of filing the application that Applicant recognized this subject matter. Applicant is required to cancel this newly added limitation from claim 11.

Claim Objections

4. Claim 1 is objected to because of the following informalities: In line 5, replace the syllabus "a" with "an"; and in line 7, add the word "being" prior to the word "sterilized". Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 11-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upor (U.S.P.N. 3,290,868) in view of Jones (U.S.P.N. 5,925,320).

Regarding claim 1, Upor discloses an apparatus (figure 3) for sterilizing air (col.1, lines 47-50 and col.5, lines 3-15) that is capable of sterilizing air with volume larger than 300 cfm by radiation of UV light.

As to the limitation of radiation with 253.7 nm germicidal ultraviolet rays, the UV lamps in the apparatus of Upor are capable of being operated to emit radiation at wavelength of 253.7 nm.

Upor teaches that the apparatus includes the following: a housing (figure 3:5) having an inlet (figure 3:50) and an outlet (figure 3:60); a fan means (figure 3:58) positioned within said housing (5) between said inlet (50) and outlet (60); a circuitous sterilizing chamber (see unlabeled chamber with cabinet 5 in figure 3 that is shaped as sinusoidal path for air to travel through) within said housing internally constructed as continually turning tunnels (see sheet 19 and the other unlabeled sheets in figure 3 that continually turn) for the purpose of containing the air to be exposed to enough amount of UV irradiation, connected with the inlet and the outlet (openings 51 and 54 as shown in figure 3 that are in fluid communication with inlet 50 and outlet 60); a number of 253.7 nm germicidal lamps (figure 3:61 and 61a) positioned inside and along the circuitous

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sterilizing chamber that are capable of providing high-density UV radiation to irradiate the passing air.

Upor fails to teach placing a filter at inlet 50. Jones discloses a UV air-sterilizing apparatus (figure 1) having a filter (figure 1:20) positioned at the inlet (figure 1:16) in order to remove particulate contaminants contained in air passing through the filter (col.2, lines 61-63).

As to the limitation that the filter removes particles larger than 1 micrometer from the air, Jones teaches (col.4, lines 27-31) that filter 20 removes particulate contaminants as small as 0.1 micrometer and larger. One recognizes that Jones's filter is capable of removing particles larger than 1 micrometer. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus in Upor with a filter at the inlet in order to remove particulate contaminants contained in air passing through the filter as explained by Jones (col.2, lines 61-63).

Regarding claim 12, Upor discloses that the circuitous sterilizing chamber (see unlabeled chamber with cabinet 5 in figure 3 that is shaped as sinusoidal path for air to travel through) constructed with smooth curved flow (see the unlabeled straight lines of the turning surfaces as shown in figure 3) guiding interior at every turning section of the circuitous sterilizing chamber that is capable of reducing flow resistant.

Regarding claim 14, Upor's UV lamps are capable of irradiating UV light at wavelength of 253.7 nm so that ozone generation is suppressed.

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8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Upor (U.S.P.N. 3,290,868) in view of Jones (U.S.P.N. 5,925,320) as applied to claim 11 and further in view of Saccomanno (U.S.P.N. 7,498,004).

Upor and Jones fail to teach placing mirror surfaces within their UV sterilizing chamber.

Saccomanno discloses an apparatus for the UV sterilization of air (figure 5) where it includes a deflector mirror (figure 5:123) that functions optically to minimize the amount of UV radiation escaping air containment vessel 130 (col.4, lines 50-53). The deflector mirror of Saccomanno is not only considered to be capable of functioning as a deflector, but is also considered to be capable of reflecting UV light within vessel 130. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus in Upor with the deflector mirror in order to optically minimize the amount of UV radiation escaping air containment vessel 130 as explained by Saccomanno (col.4, lines 50-53).

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Upor (U.S.P.N. 3,290,868) in view of Jones (U.S.P.N. 5,925,320) as applied to claim 11 and further in view of Morrow et al. (U.S.P.N. 5,656,242).

Upor and Jones fail to teach placing a filter means at their outlet.

Morrow discloses a UV air purifier (figure 1) having filter means (figure 4:179 a-b) that are placed at the outlets (figure 4:180 a-b) in order to prevent the discharge of harmful gases to the outside air (col.5, lines 6-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus in Upor with

a filter at its outlet order to prevent the discharge of harmful gases to the outside air as explained by Morrow (col.5, lines 6-9).

Response to Arguments

10. Applicant's arguments with respect to claim1 have been considered but are moot in view of the new ground(s) of rejection.

All of Applicant's arguments have been directed at canceled method claim 1 with regard to the Hirai's reference. This reference is not part of this action. However, the newly added claims 11-15 are drawn to the subject matter of an air disinfecting apparatus, which have all been addressed in this rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

12. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571)272-1271. The examiner can normally be reached on M-F 9:00-5:30.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. R. C./

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797